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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,376	05/09/2001	David W. Sherrer	ACT.011	3898

7590 03/20/2003
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EXAMINER

WEBB, BRIAN SCOTT

ART UNIT PAPER NUMBER

2839

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,376

Applicant(s)

SHERRER

Examiner

Brian S. Webb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 212. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 15-21, 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al (US 6,246,812) in view of Shahid (US 6,364,539).

Liu et al discloses, in figures 1-4, an optical waveguide ferrule comprising:

- a carrier tube having a central axis
- a waveguide carrier located within said carrier tube
- said waveguide carrier having a rectangular cross-section
- an optical waveguide extending through the waveguide carrier

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- a first carrier body formed from silicon included in said optical waveguide carrier
- a first principle surface on said first carrier body
- a first groove defined in said first principle surface
- a second carrier body formed from silicon included in said optical waveguide carrier and adhered to said first carrier body
- a second principle surface on said second carrier body
- said first and second bodies having the same cross-sectional configuration
- an elongate cavity defined between said first and second carrier bodies

Liu et al fails to disclose an optical waveguide coincident with the central axis of the carrier tube, a second groove on said second principle surface and said grooves and a trench on said first and second carrier bodies being formed by etching, and said first and second carrier bodies being separated into discrete chips by an etching process or a dicing saw.

Shahid teaches, in figures 1-5, an optical waveguide coincident with the central axis of the carrier tube and a second groove on said second principle surface with said grooves and a trench on said first and second carrier bodies being formed by etching. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the optical waveguide configuration taught by Shahid with the optical waveguide ferrule disclosed by Liu et al, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. It also would have been obvious to one of ordinary skill in the art at the time the invention was

made to use silicon wafer etching as taught by Shahid to form grooves and trenches with the optical waveguide ferrule disclosed by Liu et al. The motivation being the consistent and reliable accuracy as taught by Shahid (column 7, lines 45-50).

Official notice is taken that separating first and second carrier bodies into discrete chips by an etching process or a dicing saw is well known in the art of silicon chip etching and formation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use etching or a dicing saw to form the silicon chips disclosed by Liu et al. The motivation being the consistent and reliable accuracy as taught by Shahid (column 7, lines 45-50).

4. Claims 8-14 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liu et al and Shahid as applied to claims 1-7, 15-21, 29, 31, 32, and 34 above, and further in view of Cherin et al (US 4,142,776).

Liu et al and Shahid fail to disclose a waveguide carrier having a hexagonal cross-section, an octagonal cross-section, or an isosceles trapezoidal cross-section, and the inner periphery of said carrier tube conforming to the cross-sectional configuration of said waveguide carrier. Cherin et al discloses, in figures 1-10, a waveguide carrier having an octagonal and trapezoidal cross-section (see figure 1), and the inner periphery of said carrier tube conforming to the cross-sectional configuration of said waveguide carrier. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the a waveguide carrier having the octagonal and isosceles trapezoidal cross-section and the inner periphery of said carrier tube conforming to the cross-sectional configuration of said waveguide carrier taught by

Cherin et al with the optical waveguide ferrule disclosed by Liu et al and Shahid. The motivation being the improved fit and alignment of the optical fibers as taught by Cherin et al (column 3, lines 9-20).

It would have been an obvious matter of design choice to provide a waveguide carrier having a hexagonal cross-section with optical waveguide ferrule disclosed by Liu et al and Shahid, since such a modification would have involved a mere change in the size or shape of a component. A change in size or shape is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Griffin et al (US 4,257,674), Erdman et al (US 6,022,150), Woith (US 4,810,053), and Love et al (US 3,846,010) all disclose optical waveguide ferrules having matching fiber grooves or hexagonal cross-sectioned waveguide carriers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian S. Webb whose telephone number is (703) 308-6080. The examiner can normally be reached on 7: 30-6, Mon - Thurs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn D. Field can be reached on (703) 308-2710. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



BSW
March 11, 2003



LYNN FEILD
SUPERVISORY PATENT EXAMINER
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